

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

CHO, In-jae

NEWKOREA INTERNATIONAL PATENT & LAW
OFFICE3rd Fl., Janghyun Bldg., 637-23,Yeoksam-dong,
Gangnam-gu Seoul 135-909 Republic of Korea

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

Date of mailing

(day/month/year)

29 JUNE 2006 (29.06.2006)

Applicant's or agent's file reference

PP06-0101

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2006/001060

International filing date (day/month/year)

23 MARCH 2006 (23.03.2006)

Priority date(day/month/year)

13 DECEMBER 2005 (13.12.2005)

International Patent Classification (IPC) or both national classification and IPC

B27K 9/00(2006.01)i, B27J 1/00(2006.01)i

Applicant

RYU, Hai-il et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon
302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Date of completion of this opinion

29 JUNE 2006 (29.06.2006)

Authorized officer

CHUNG, Kee Hyun

Telephone No.82-42-481-813



**WRITTEN OPINION OF THE
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Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims	None	NO

2. Citations and explanations :

Reference is made to the following document;

D1: KR 20030093057 A

D1 relates to a method of producing a plywood material of cornstalk by mixing 7-10 parts by weight of cornstalk, 1-2 parts by weight of adhesive resin, and 0.1-0.3 parts by weight of additive; and molding at the temperature of 150-210 °C under the molding pressure 9-12 ton/cm² for 5-10 minutes.

1. Novelty

Claims 1-6 are similar to D1 in the steps of mixing cornstalk, adhesive resin like urea resin, and additives like ammonium chloride, and compressing under a high pressure, but different in the detail amount of constituents and numerical definition thereof. Thus claims 1-6 are considered novel under PCT Article 33(2).

2. Inventive Step

1) Claims 1-4 relate to a method of manufacturing a panel characterized by the steps of adding 1-10 parts by weight of a hardening agent to a mixture of 6-10 parts by weight of cornstalk and 0.2-2 parts by weight of binder or silicate and molding at 120-210 °C, under 10-30,000 kgf/cm², for 0.5-20 minutes, which further define said binder into Melamine Formaldehyde Glue, Urea Formaldehyde Glue, Phenol Formaldehyde Glue, Urea & mixed Formaldehyde Glue, Phenol & Urea & mixed Formaldehyde Glue, Urea Melamine Formaldehyde Glue, poly-laurylacrylate, poly-2-ethylhexylacrylate, vinyl acrylic resin, vinyl acetate resin, glues, EVA resin, and said hardening agent into ammonium hydroxide, ammonium chloride, magnesium chloride, aluminum chloride, ammonium phosphate.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Box V.

However, the above feature is already disclosed in D1 in example 1-7, and though there is a slight difference in the amount of the constituents and the processing condition (temperature, pressure, time), it is in the scope of customary practices a person skilled in the art would easily configure, and the effect thereof is not remarkable over that of D1. Accordingly claims 1-4 are considered to be easily invented by a person skilled in the art from D1. Thus claims 1-4 are not inventive under PCT Article 33(3).

2) Claim 5 relates to a method of manufacturing a functional panel by means of an MDF manufacturing process which comprises the steps of crushing cornstalk, cooking, mechanical pulping, adding resin, fluidized drying, hopper-storing, air-filtering, forming in a shape of mat, compressing thermally, cooling, and cutting.

However the above MDF manufacturing process is disclosed in D1 in example 7. Thus claim 5 can be easily invented by a person skilled in the art from D1. Thus claim 5 is not inventive under PCT Article 33(3).

3) Claim 6 relates to a function panel including 6-10 parts by weight of cornstalk and 2-10 parts by weight of flame retardant and a component for shielding electromagnetic force.

However, the additives such as said flame retardant and component for shielding electromagnetic force can be one of straightforward possibilities from which a person skilled in the art can easily select, and the effect thereof can be easily expected. Accordingly claim 6 can be easily invented by a person skilled in the art from D1.

Thus claim 6 is not inventive under PCT Article 33(3).

3. Industrial Applicability

Claims 1-6 are industrially applicable under PCT Article 33(4).